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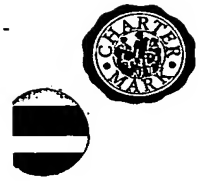

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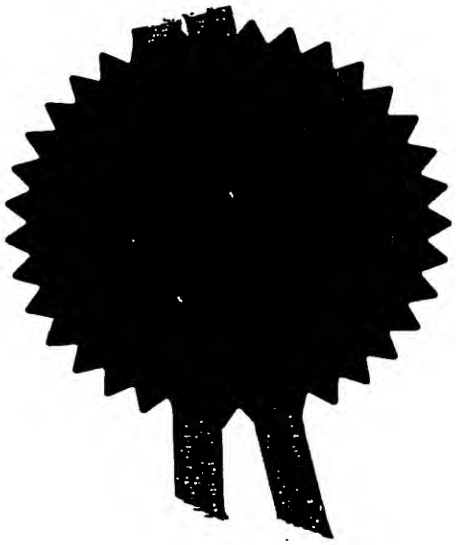

Signed Stephen Hordley

Dated 11 October 2004

Patents Form 1/77

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Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

1. Your reference P35691GB/NJH/REB

2. Patent application number *(The Patent Office will fill in this part)*
~~26 SEP 2003~~ 0322610.7

3. Full name, address and postcode of the or of each applicant *(underline all surnames)*
See attached sheet

Patents ADP number *(if you know it)*

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention
Cutlery Set Assembly

5. Name of your agent *(if you have one)*

"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*
Kilburn & Strode
20 Red Lion Street
London
WC1R 4PJ

Patents ADP number *(if you know it)*
125001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number

Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application	Date of filing *(day / month / year)*

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? *(Answer 'Yes' if:*
a) any applicant named in part 3 is not an inventor, or
b) there is an inventor who is not named as an applicant, or
c) any named applicant is a corporate body.
See note (d))
YES

APPLICANT SHEET

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Great Britain

8721979001

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Continuation sheets of this form	
Description	9
Claim(s)	2 DL
Abstract	
Drawing(s)	6 + 6

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Priority documents	
Translations of priority documents	
Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*	
Request for preliminary examination and search *(Patents Form 9/77)*	1 ✓
Request for substantive examination *(Patents Form 10/77)*	
Any other documents *(please specify)*	

11. I/We request the grant of a patent on the basis of this application.

Signature [signature] Date 26.09.2003

12. Name and daytime telephone number of person to contact in the United Kingdom

HEDLEY, Nicholas James
Tel: 020 7539 4200

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Cutlery Set Assembly

The present invention relates to a cutlery set assembly comprising two or more of a spoon, fork and knife that can be assembled in a nested arrangement as a single unit. In particular, the present invention relates to a cutlery set assembly which when disassembled provides cutlery which are easy to handle, are lightweight and strong.

Lightweight, plastic disposable cutlery is commonly used in chain restaurants and by airlines when serving complimentary meals. The cutlery is of a conventional shape and is not very strong. The spoon, fork and particularly the knife (known generically as eating utensils) may bend in use and can be quite disconcerting for the user and difficult to manage. In fact, these utensils are generally ineffective when used with anything other than soft meat and food.

Cutlery set assemblies for camping comprising a spoon, fork and knife are also known. Generally, the spoon, fork and knife are of a conventional shape and are attached together by a tongue and groove arrangement. Due to the demands required of the utensils when camping, the cutlery set is usually made from metal, such as aluminium, to provide strength and rigidity to the utensils which would be lacking in a plastic equivalent. As such, the cutlery set assembly used for camping is invariably more costly and is too expensive simply to be disposed of after use. The tongue and groove arrangement is also not a secure way of assembling the cutlery as a unit and may result in the loss of a utensil in which case a new set must be bought. The tongue and groove arrangement also makes that utensil having the tongue portions awkward to grip.

An object of the present invention is to provide a cutlery set assembly which overcomes at least some of the problems of the prior art. A further object of the invention is to provide a lightweight disposable cutlery set assembly where the spoon, fork and knife are of a design that can make them strong.

According to the present invention, there is provided an assembly of cutlery comprising at least two items of cutlery made of resilient plastics material, each having a cylindrical handle and wherein the handles are shaped such that they can be nested with each other and wherein, when in such a nested condition, the handle of the outermost item extends more than half way around the handle of the other item to hold the items in the nested condition.

The assembly preferably includes a knife, fork and/or spoon.

The spoon, fork and knife are typically made from a resilient plastic material, for example, polypropylene. The cylindrical form of the handle portions provides strength and rigidity to the utensils during use. As such, the cutlery may be used with foods which are relatively tough to process, for example, steak or frozen ice-cream.

The handles of the spoon, fork and knife will generally be hollow, although the innermost item in the nested arrangement may be solid . The handles may have circular or part circular cross sections although other cross-sections may be used, for example, rectangular.

The knife handle may be hollow and have a rib forming an extension of the blade extending along the inside of the hollow handle. Preferably, the rib runs along the entire length of the handle of the knife, the rib adding further strength to the knife to resist bending of the knife during use.

A slit may be provided running along the length of the hollow handles. Such slits in a spoon or fork may accommodate the rib of the knife (when provided) when the handles of the spoon, fork and knife are nested together.

The slits help assembly of the cutlery set by allowing the walls of the handle portions to flex when the handles are being nested together. The surfaces of adjacent handle portions contact each other and the resilience of the plastic material holds the handle portions in firm engagement thus keeping the cutlery set assembled together. The contacting surfaces may also be textured to further resist slippage of the handle portions when nested together.

Preferably, a spoon and a fork are adjacent; the respective diameters of the handles of the spoon and fork are in that case such as to allow the handle of one to be slidably inserted into the handle of the other. Preferably, the handle of the fork is inserted into the handle of the spoon. In this way the smooth curved surface area of the head of the spoon forms an exterior surface of the cutlery set assembly which both protects the user from the prongs of the fork and provides a more attractive appearance to the cutlery set when assembled.

When the handles of the spoon and fork are nested together, the slit of the spoon handle may lie in register with the slit of the fork handle to receive the edge of the knife. The diameter of the handle of the knife is preferably such as to allow the nested spoon and fork handles to be slidably inserted into the handle of the knife. The slits of the spoon and fork handles engage with the rib of the knife to guide the sliding motion of the spoon and fork handles into the handle of the knife so that the handle of the spoon is sandwiched between the handle of the fork and knife.

Thus the nested assembly can be formed by sliding each item of cutlery lengthwise into or onto another item of the assembly. Alternatively, the assembly can be nested together by lining an item of cutlery (the inner item) with the slit in the item that fits outside it in the nested assembly (the outer item) and pushing the inner item against the slit. This opens up the slit until it reaches a width corresponding to the diameter of the inner item, whereupon the inner item will snap into the outer item and the resilience of the outer item will retain the inner item within it, thereby nesting the inner and outer items.

When the knife has a rib, the assembly of the nested cutlery assembly may be completed by inserting the rib of the knife into the slits of the spoon and fork handles by pressing the handle portion of the knife against the handle portion of the spoon. Continuing to press the handle of the knife against the handle of the spoon extends the flexible wall of the knife handle about the spoon handle until the wall of the knife handle snap fits about the handle of the spoon.

When the utensils are assembled as a unit, the handles of the spoon, fork and knife share a common longitudinal axis.

The spoon and fork may have curved portions sloping from the handle portions to the head of the spoon and fork respectively to aid nesting of the fork handle within the spoon handle and to add strength and rigidity to the spoon and fork head.

The head of the spoon and fork may also be thicker in cross-section than the handle portions to further resist bending of the head portions in use.

The invention will be more clearly understood by way of description of an embodiment thereof given by way of example only with reference to the accompanying drawings, in which:-

Fig. 1 is a perspective view of the cutlery set assembly according to the present invention showing the handles of the spoon, fork and knife assembled in a nested arrangement;

Fig. 2 is an exploded perspective view of the cutlery set assembly of fig. 1;

Fig. 3 is a perspective view and from the side of an end portion of the cutlery set assembly of fig. 1 showing the nested arrangement of the handle portion of the spoon, fork and knife;

Fig. 4 is a perspective view of a section of the handle of the cutlery set assembly of fig. 1 taken along the lines A-A;

Figs. 5 to 7 are respectively a plan view, side view and perspective view of a spoon of the cutlery set assembly;

Figs. 8 to 10 are respectively a plan view, side view and perspective view of a fork of the cutlery set assembly;

Figs. 11 to 13 are respectively a plan view, side view and perspective view of a knife of the cutlery set assembly;

Fig. 14 is an end view in the direction of the arrow B of the knife of fig. 11;

Fig. 15 is a perspective view showing how to disassemble the cutlery set assembly; and

Fig. 16 is a perspective view showing how to disassemble the cutlery set assembly in more detail.

Referring to the drawings and initially to figs 1 to 4, there is shown a cutlery set assembly generally indicated by the reference numeral 1 comprising a spoon 10, fork 30 and knife 50 nested together as a single unit. The cutlery set assembly 1 has a cylindrical handle 2 and a head portion 4 which includes a head of the spoon 10, fork 30 and the knife 50. The spoon 10, fork 30 and knife 50 are made from polypropylene and formed by injection moulding.

Referring now to figs. 5 to 14 the spoon 10, fork 30 and knife 50 will now be described in turn so that it will be more clearly understood how they nest together to form the single unit of the cutlery set assembly 1.

As can be seen from figs. 5 to 7, the spoon 10 comprises a hollow cylindrical handle 11 having a leading end 12, a trailing end 13, and a central longitudinal axis 14. The spoon handle 11 has a slit 16 running along the entire length thereof and parallel to the longitudinal axis 14. The slit 16 flares outwardly from the spoon central axis 14 at the leading end 12 of the spoon handle 11 and slopes towards a spoon shaped head 18. The trailing end 13 of the spoon handle 11 is slanted.

The fork 30 is similar in shape to the spoon 10 and comprises a hollow cylindrical handle 31 having a leading end 32, a trailing end 33, and a central longitudinal axis 34. This can be seen most clearly in figs. 8 to 10. The fork handle 32 has a slit 36 running along the entire length thereof and parallel to

the fork central axis 34. The slit 36 flares outwardly from the fork axis 34 at the leading end 32 of the fork handle 31 and slopes towards a forked shaped head 38. The trailing end 33 is generally perpendicular to the fork axis 34.

Referring now to figs. 11 to 14, the knife 50 also comprises a hollow substantially cylindrical handle 52 having a central longitudinal axis 54. The knife 50 has a slit 56 running along the entire length thereof and parallel to the central axis 54. A rib 58 extends centrally along the length of the knife handle 52 on an inner curved surface thereof. The knife handle 52 tapers to a leading end 60 to expose a sharp knife edge 62 of the rib 58. A trailing end 64 of the knife handle 52 is slanted.

The diameters of the spoon and fork handles 11, 31 are such as to allow the fork handle 31 to be slidably inserted into the leading end 12 of the spoon handle 11. When the fork handle 31 has been fully inserted into the spoon handle 11, the convex side of the forked head 38 lies adjacent the concave side of the spoon head 18, and the slit 16 lies in register the slit 36. The trailing end 32 of the fork handle 31 extends to the slanted trailing end 13 of the spoon handle 11 so that the trailing end 32 of the fork handle 31 is exposed. The inner curved surface of the spoon handle 11 engages with the outer curved surface of the fork handle 31 and the resilient nature of the polypropylene holds the spoon and fork handle portions 11, 31 in firm engagement with each other.

To complete the assembly of the cutlery set, the slits 16 and 36 of the spoon 10 and fork 30 receive the rib 58 of the knife 50. The diameter of the knife handle 52 is such as to allow the trailing ends 13, 33 of the nested spoon and fork handles 10, 30 to be slidably inserted into the leading end 60 of the knife handle 50. The aligned slits 16 and 36 of the spoon and fork handles 11 and 31, and the knife rib 58 act like a rail to guide the sliding motion of the spoon

and fork handles 11, 31 into the knife handle 52 so that the spoon handle 11 is sandwiched between the fork and knife handles 31, 52. The outer curved surface of the spoon handle 11 engages with the inner curved surface of the knife handle 52 and the resilient nature of the polypropylene holds the spoon and knife handles 11, 52 in firm engagement with each other when nested together.

Alternatively, the assembly of the cutlery set may be completed by inserting the knife rib 58 into the slits 16, 36 by pressing the knife handle 52 against the spoon handle 11. Continuing to press the handle 52 of the knife against the handle 11 of the spoon distorts the flexible wall of the knife handle 52 and increases the width of the slit 56 until the width of the slit 56 is the same as the diameter of the knife handle 52, whereupon the knife handle 52 snap fits over the spoon handle 11.

When the spoon 10, fork 30 and knife 50 are assembled as a unit, the handles 11, 31 and 52 share a common longitudinal axis 70.

To disassemble the cutlery set assembly 1, the assembly process is simply reversed. The knife 50 is removed from about the spoon handle 11 by sliding the knife 50 in a direction away from the spoon head 18. Alternatively, and as can be seen clearly in fig. 15 and fig. 16, the knife 50 can be gripped at the leading end 60 and lifted in a levered action about the trailing end 13 of the spoon 10, the applied lifting force expanding the resilient wall of the knife handle 52 and increasing the width of the knife slit 56 until the knife 52 can be removed from the spoon handle 11.

Because the trailing end 13 of the spoon 10 is slanted, the trailing end 33 of the of the fork 30 is accessible and can be pushed in the direction of the spoon head

18 to partially slide the fork handle 31 out of the spoon handle 11. By gripping the fork head 38 and pulling the fork 30 in the direction of the spoon head 18, the fork handle 31 is completely removed from the spoon handle 11.

The nesting arrangement of the cutlery assembly 1 provides an easy and efficient way of assembling/disassembling the spoon, fork and knife so that it can be transported as a single unit.

The tubular form of the handle portions 11, 31, 52 provide strength and rigidity so as to allow the spoon 12, fork 30 and knife 50 to process relatively tough foods, for example, steak and frozen ice-cream.

The forked head 38 and spoon head 18 may be thicker in cross-section than the cross-section of the handles 11, 31 to impart further strength to the forked head 38 and spoon head 18. The knife rib 58 also adds further strength to the knife 50 to resist bending during use.

The invention is not limited by the embodiments hereinbefore described which may be varied in both construction and detail within the scope of the appended claims.

Claims

1. A cutlery set assembly comprising at least two items of cutlery made of resilient plastics material, each having a cylindrical handle and wherein the handles are shaped such that they can be nested with each other and wherein, when in such a nested condition, the handle of the outermost item extends more than half way around the handle of the other item to hold the items in the nested condition.

2. A cutlery set assembly as claimed in claim 1, wherein the handles of at least two of the items of cutlery are hollow.

3. A cutlery set assembly as claimed in claim 1 or claim 2, wherein at least one of the items of cutlery has a slit running along the length of the handle.

4. A cutlery set assembly as claimed in any of claims 1 to 3, wherein the assembly includes a knife that has a rib forming an extension of the blade extending along the inside of the hollow handle.

5. A cutlery set assembly as claimed in claim 4, wherein the handle of the knife tapers to a leading end of the knife to expose a sharp edge of the blade.

6. A cutlery set assembly as claimed in any preceding claim, wherein the assembly includes a spoon and fork, the handles of the spoon and fork each having a slit running along the length of its handle and wherein the slit of the spoon handle lies in register with the slit of the fork handle when the handles thereof are nested to receive the rib of the knife so that

the handle of the fork and spoon are nested within the handle of the knife.

7. A cutlery set assembly as claimed in claim 6, wherein the head of the spoon and/or fork has a thicker cross-section than the cross-section of the spoon handle and/or fork handle.

8. A cutlery set assembly as claimed in any preceding claim, wherein curved surfaces of adjacent handles engage when nested, the resilience of the walls of the handles keeping the cutlery set assembly together.

9. A cutlery set assembly as claimed in claim 8, wherein the curved engaging surfaces are textured to further resist slippage of the handles when nested.

10. A cutlery set assembly as claimed in any preceding claim, wherein the assembly includes a knife, fork and spoon.

11. A cutlery set assembly as claimed in any preceding claim, wherein the resilient plastics material is polypropylene.

12. A cutlery set assembly as claimed in any preceding claim, wherein the items of cutlery are formed by injection moulding.

13. A cutlery set assembly substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

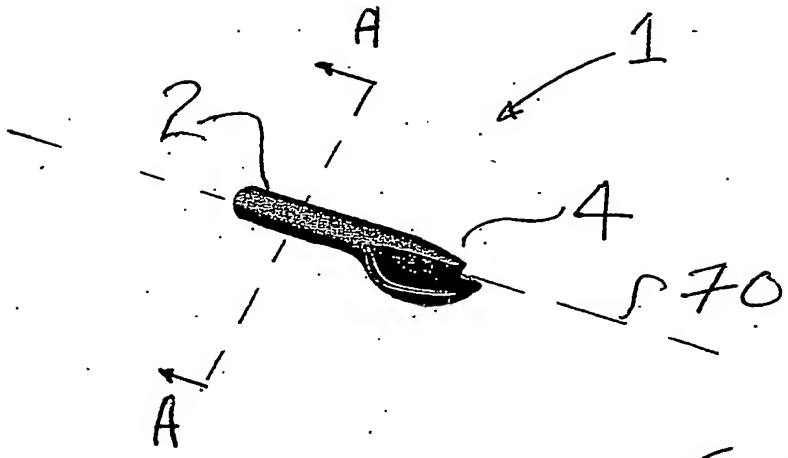

FIG 1

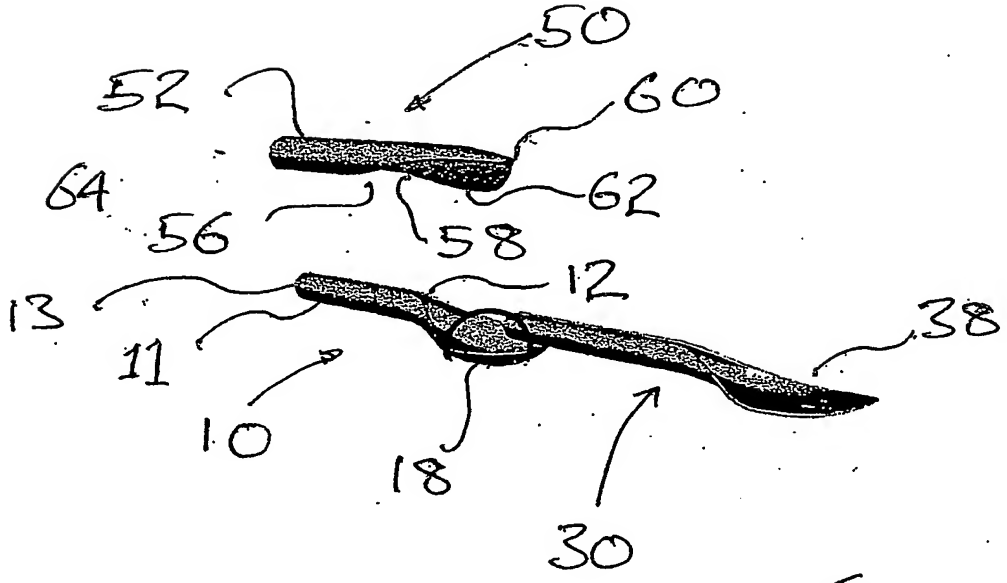

FIG 2

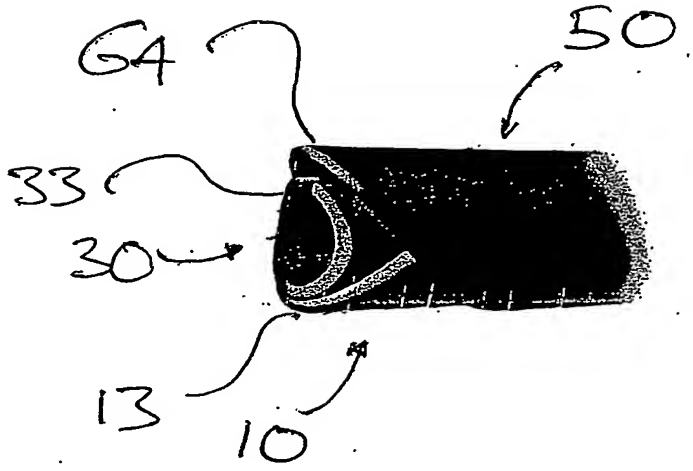

Fig 3

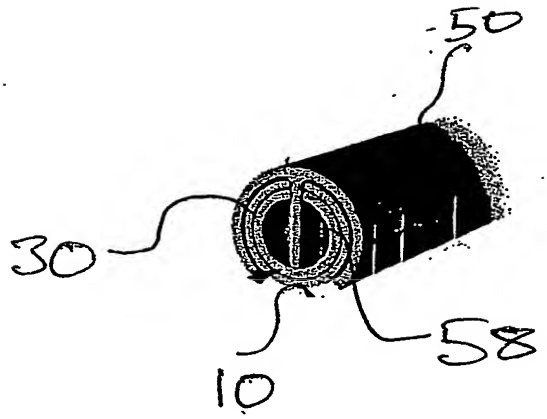

Fig 4

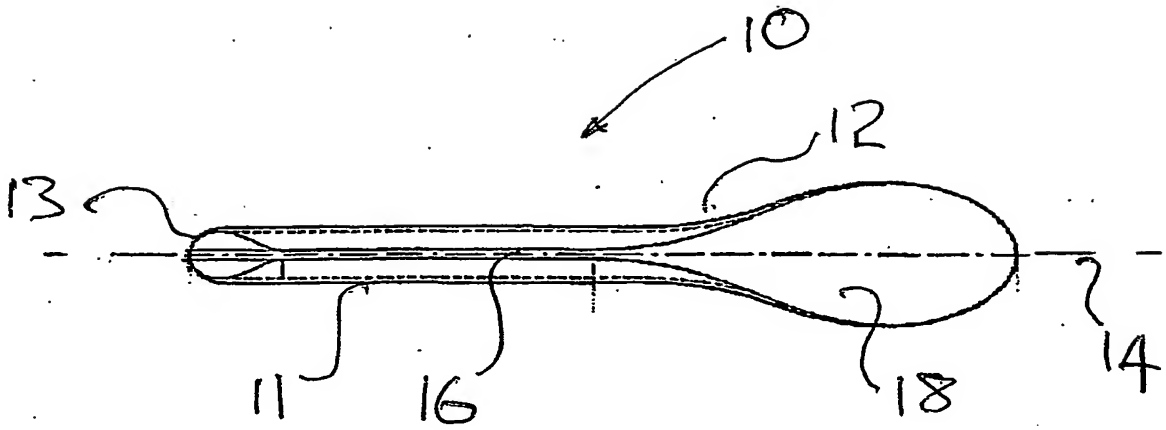

FIG 5

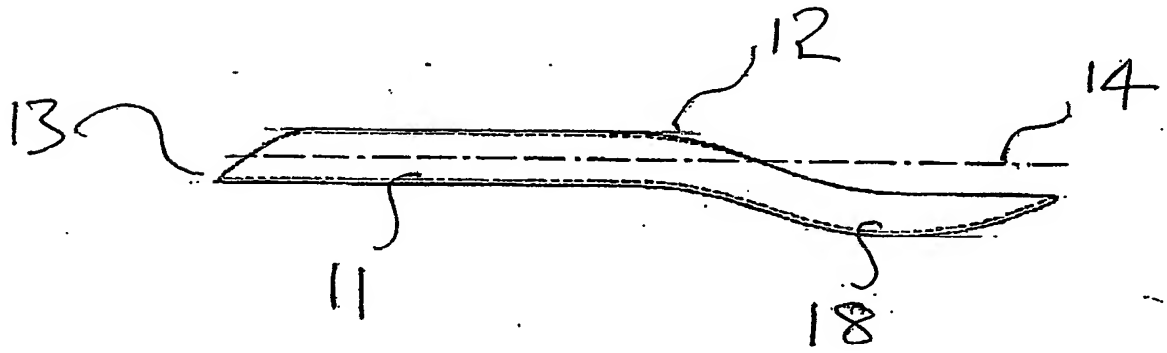

FIG 6

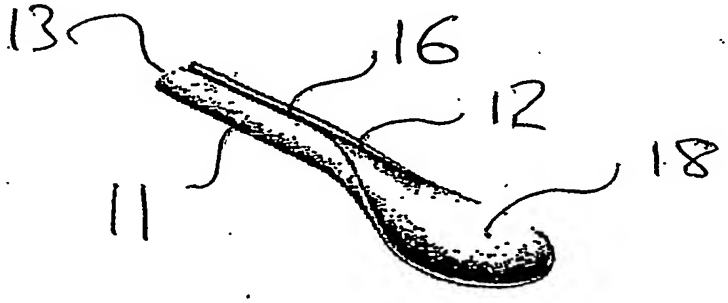

Fig 7

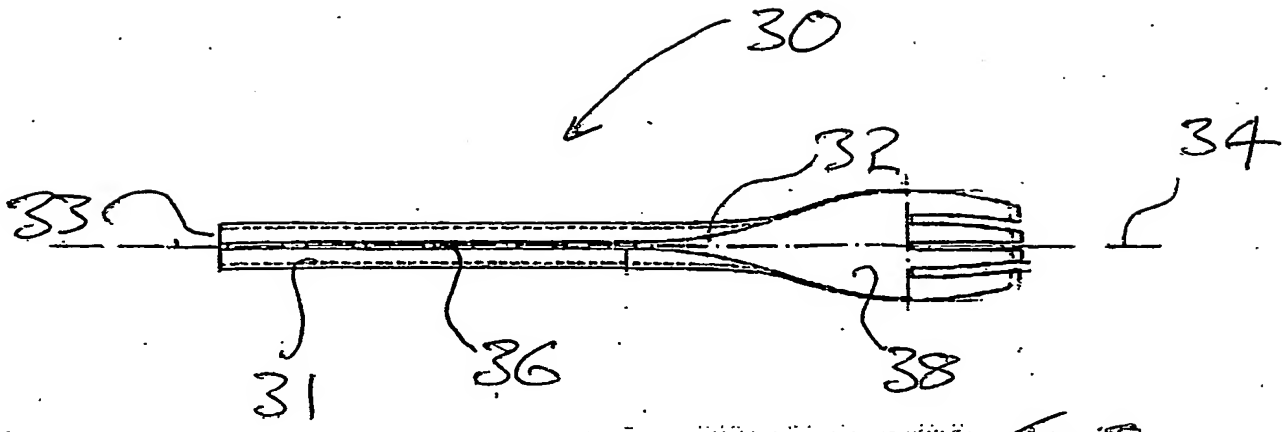

Fig 8

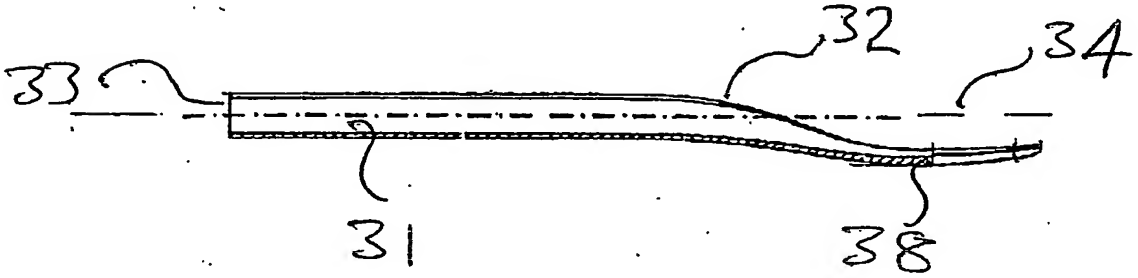

FIG 9

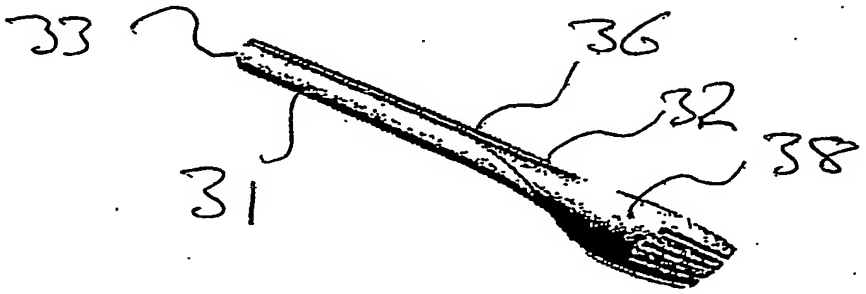

FIG 10

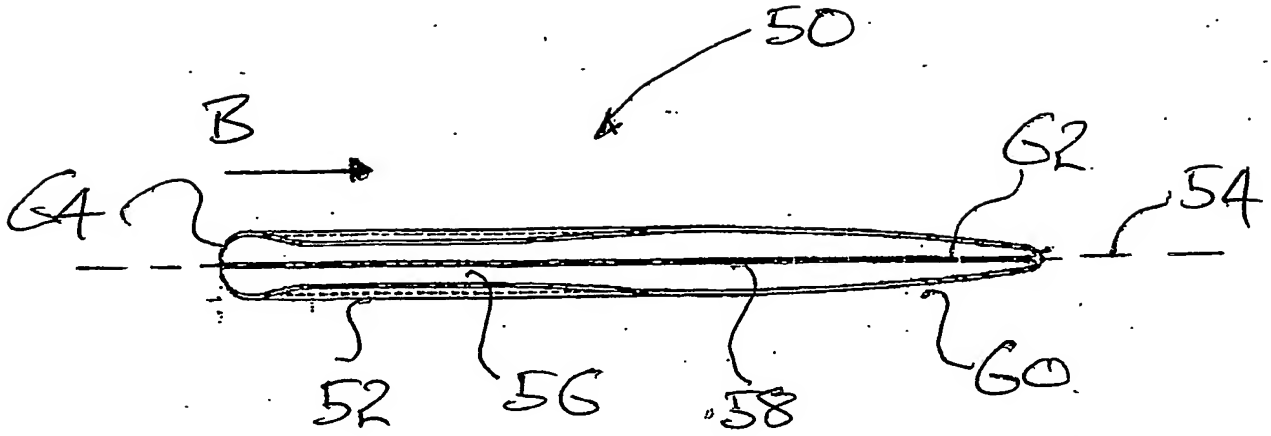

FIG 11

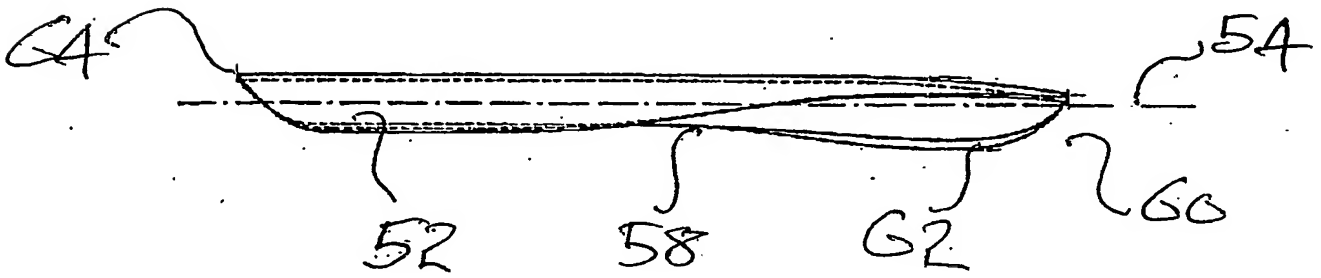

FIG 12

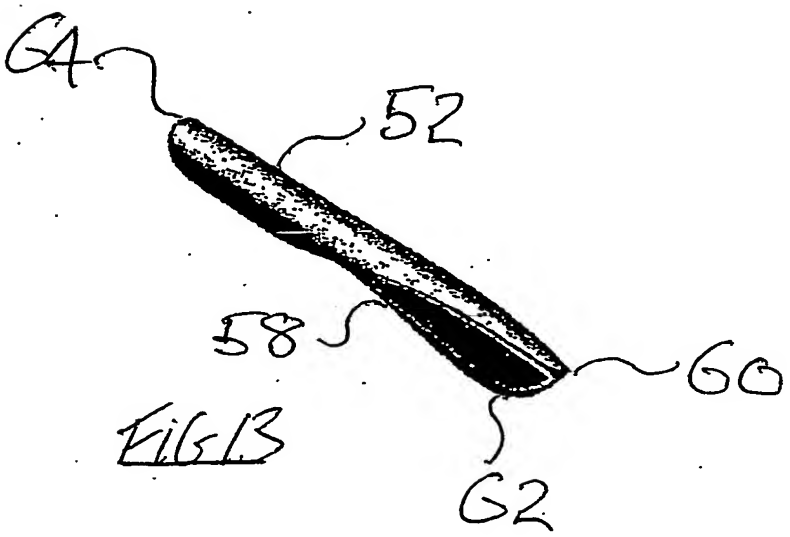

FIG 13

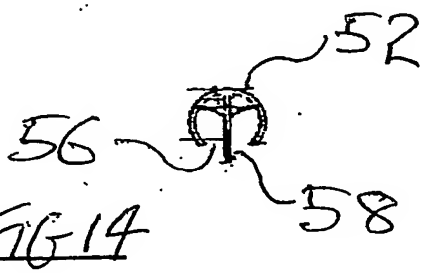

FIG 14

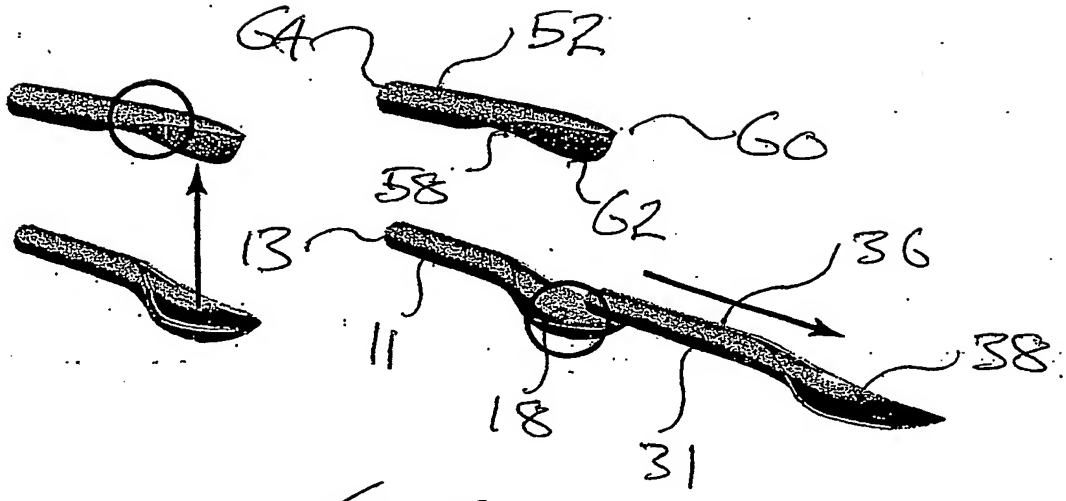

FIG 15

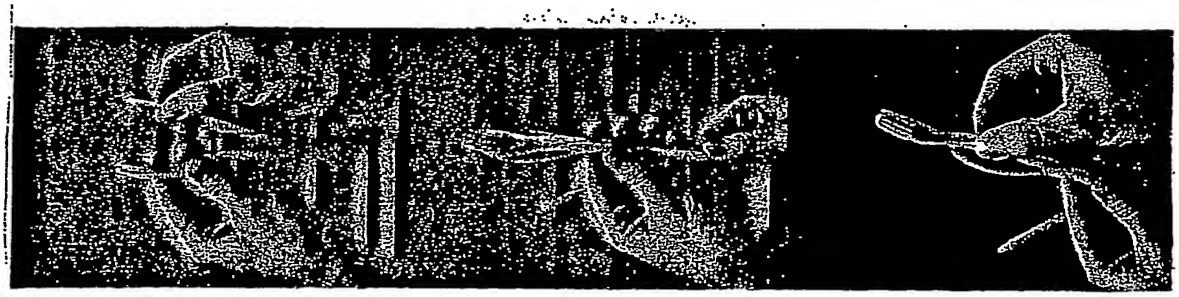

FIG 16

Spare